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PATENT

APPLICATION

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by

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and assigned to

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on the invention entitled

**CONVERTIBLE BROOM WHICH IS CONVERTIBLE
FROM A PUSH BROOM TO A HANDHELD WHISK BROOM**

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1 **CONVERTIBLE BROOM WHICH IS CONVERTIBLE**
2 **FROM A PUSH BROOM TO A HANDHELD WHISK BROOM**
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4

5 **BACKGROUND OF THE INVENTION**
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7 **1. Field of the Invention**
8

9 The present invention relates to the field of brooms, and in particular push brooms and
10 handheld whisk brooms.
11

12
13 **2. Description of the Prior Art**
14

15 Brooms in general are old and well known in the art. Push brooms are known and
16 handheld whisk brooms are known. However, no embodiment known to the present inventor
17 incorporates the concept of a convertible broom where a push broom and a whisk broom are
18 incorporated into the same device.
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SUMMARY OF THE INVENTION

The present invention is a convertible broom which has two sections each retaining a multiplicity of bristles on their respective lower surfaces. The two sections have means to retain them together and when in this condition, the joined sections can be used as a conventional straight broom or angle broom with the sections pushed or swept by an elongated handle retained in the first section. The two sections can also be separated and the second section which has a short handle retained thereon or grasping means incorporated therein can then be used as a handheld whisk broom.

It is therefore an object of the present invention to create a convertible broom which can be used as a conventional broom and also can be separated so a portion of the apparatus can be used as a handheld whisk broom.

It is also an object of the present invention to utilize the conversion feature so the broom can be used as a conventional broom and also separated so that a portion can be used as a whisk broom for both an angled broom and also a straight broom.

Further novel features and other objects of the present invention will become apparent from the following detailed description, discussion and the appended claims, taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Referring particularly to the drawings for the purpose of illustration only and not limitation, there is illustrated:

FIG. 1 is a perspective view of the present invention convertible broom embodied in an angled push broom;

FIG. 2 is a perspective view of the separated sections of the embodiment of the convertible broom illustrated in Figure 1, with the sections separated so that one section is used as a handheld angled whisk broom;

FIG. 3 is a perspective view of another embodiment of the present invention convertible broom embodied in a straight bristle push broom; and

FIG. 4 is a perspective view of the separated sections of the embodiment of the convertible broom illustrated in Figure 3, with the sections separated so that one section is used as a handheld straight bristle whisk broom.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Although specific embodiments of the present invention will now be described with reference to the drawings, it should be understood that such embodiments are by way of example only and merely illustrative of but a small number of the many possible specific embodiments which can represent applications of the principles of the present invention. Various changes and modifications obvious to one skilled in the art to which the present invention pertains are deemed to be within the spirit, scope and contemplation of the present invention as further defined in the appended claims.

The first embodiment of the present invention convertible broom is incorporated into an angled broom illustrated in Figures 1 and 2. The convertible angle broom 10 includes a two piece housing 20 having a first section 30 and a second section 60. First section 30 includes an elongated housing portion 32 having an upper surface 34, a lower surface 36, a first sidewall 38, a parallel second sidewall 40, a first closed outward end 42 and a parallel open interior second end 44, the open end 44 leading to an internal chamber 46, with a first open slot 48 formed in said first sidewall 38 and leading to said internal chamber 46 and a corresponding parallel open slot in second sidewall 40, the corresponding parallel open slot also leading to internal chamber 46. The lower surface 36 of housing portion 32 retains a multiplicity of straight bristles 50 within the lower surface 36. The upper surface 34 of housing portion 32 supports a handle base 52 having threaded receiver means 54 to receive the lower end of the broom handle 56.

Second section 60 of two piece housing 20 includes an elongated stepped housing portion 62 having an upper surface 64 and a stepped lower surface 66 having a multiplicity of step sections. In the embodiment illustrated in Figures 1 and 2 there are four stepped sections 68, 70, 72 and 74 in lower surface 66 with each successive stepped section formed at a greater angle to the horizontal upper surface 64 than the preceding stepped sections. The upper surface 64 is initially horizontal at the innermost portion of second section 60 and then tapers at angle portion

65 until it once again converts to a horizontal portion 67 against its outward end 76, the horizontal portion 67 positioned lower than horizontal portion 64. Second section housing portion 62 also has a first sidewall 78, a parallel oppositely disposed second sidewall 80.

Formed onto outward end 76 is a handle 82. The handle has an arcuate configuration so that a portion of the handle 82 extends over the upper surface of second section housing 62, including over surfaces 65 and 67 and partially over surface 64.

Oppositely disposed interior end 84 of housing 62 supports a horizontally disposed male mating member 86 which has male clips to mate with the open slots in housing portion 32 of first section 30. In operation, male mating member 86 is inserted into internal chamber 46 of housing portion 32 so that first mating clip 88 protrudes through first open slot 48 and second mating clip 90 protrudes through the corresponding second open slot in second parallel sidewall 40.

The stepped sections 68, 70, 72 and 74 of stepped lower surface 66 support a multiplicity of bristles 92 which initially are straight at the innermost portion of stepped section 66 which rests adjacent the first section, with the bristles extending at ever greater angles to the horizontal as the bristles are positioned on the various stepped sections extending to outmost stepped section 74 which has bristles 92 at the greatest angle to the horizontal.

In operation, when first section 30 and second section 60 are mated together as previously described and as illustrated in Figure 1, the angle broom 10 operates like a conventional angle broom when the bristles 50 and 92 are pushed along the surface to be swept by handle 56.

To convert the angle broom 10 into a whisk broom 94, the mating fasteners are separated. In the embodiment disclosed, first mating clip 88 and second mating clip 90 are squeezed

1 inwardly to cause them to be moved out of their respective slots in housing 32 and the second
2 section 60 is pulled away from first section 30. The second section can then be held by itself by
3 holding onto handle 82 and the handheld section 94 is used as a whisk broom to sweep surfaces
4 by hand.

5
6 To reassemble the broom and convert it back from a whisk broom to a full angle push
7 broom, the mating member 86 is once again pushed into internal chamber 46 until mating clips
8 88 and 90 are once again retained in their respective open slots in the sidewalls 38 and 40 of
9 housing portion 32 and first section 30.

10
11 This embodiment has been described with the receiver means 46, 48 and its parallel open
12 slot in the first section and the mating members 86, 88 and 90 in the second section. It will be
13 appreciated that it is within the spirit and scope of the present invention to have these joining
14 means reversed so that receiving means are in the second section and mating means are in the
15 first section.

16
17 The convertible feature of the present invention can also be incorporated into a straight
18 push broom as illustrated in Figures 3 and 4. The convertible straight broom 110 includes a two
19 piece housing 120 having a first section 130 and a second section 160. First section 130 includes
20 an elongated housing portion 132 having a generally arcuate upper surface 134, a horizontally
21 aligned lower surface 136, a first sidewall 138, a parallel second sidewall 140, a first closed
22 outward end 142 and a parallel longer open interior second end 144, the open end leading to at
23 least one internal chamber 146 with at least one first open slot 148.

24
25 Formed in said first sidewall 138 and leading to said at least one internal chamber 146 is
26 first open slot 148. A corresponding parallel open slot is second sidewall 140, the corresponding
27 parallel open slot also leading to at least one internal chamber 146. In the embodiment
28 illustrated in Figure 3 and 4, there are two sets of parallel open slots in the respective sidewall,

1 the open slots vertically aligned and spaced apart by a vertical distance on said sidewall. The
2 open slot 148 is formed in said first sidewall 138 at a height closer to upper surface 134 than the
3 lower open slot 149 in sidewall 138 which is aligned with open slot 148 and set below it by a
4 given distance. The internal chamber 146 can extend the entire vertical interior distance within
5 housing portion 142 in which lower open slot 149 also extends into internal chamber 146.
6 Alternatively, internal chamber 146 may only extend into housing portion 132 at the location of
7 open slot 148. In that case, a second internal chamber 147 will be located and extend into the
8 housing portion 132 at the location of lower open slot 149 so that lower open slot 149 extends
9 into second internal chamber 147. There is also a corresponding lower open slot in second
10 sidewall 140 and the lower open slot in second sidewall 140 also extends into the same internal
11 chamber that lower open slot 149 extends into.

12
13 The lower surface 136 of housing portion 132 retains a multiplicity of straight bristles
14 150 within the lower surface 136. The upper surface 134 of housing portion 132 contains a
15 handle base 152 having threaded receiving means 154 to receive the lower end of the broom
16 handle 156.

17
18 Second section 160 of two piece housing 120 includes a second housing portion 162
19 having upper surface 164 and a lower surface 166. Second section housing portion 162 includes
20 a first sidewall 178 having a vertically extending groove 168 therein. Second section housing
21 portion 162 also has a parallel oppositely disposed second sidewall 180 which also has a
22 vertically extending groove therein which is aligned with and corresponds to groove 168.

23
24 Groove 168 and its corresponding aligned vertical groove in second sidewall 180 serves
25 as a handle so that second section 160 can be grasped between the thumb and the forefinger of
26 one hand when second section 160 is separated from first section 130.

1 Oppositely disposed interior end 184 of housing 162 supports at least one horizontally
2 disposed male mating member 186 which has male clips to mate with an aligned pair of open
3 slots in housing portion 132 of first section 130. In operation, male mating member 186 is
4 inserted into internal chamber 146 of housing portion 132 so that first mating clip 188 protrudes
5 through first open slot 148 and second mating clip 190 protrudes through its corresponding
6 second open slot in second parallel sidewall 140.

7
8 In the event there is the second lower slot 149 and its corresponding lower slot in the
9 second parallel side 140 and their second lower internal chamber 147 with which they are in
10 communication, then the oppositely disposed interior end 184 will support a second lower
11 mating member 187 which has male clips to mate with the aligned lower pair of slots in housing
12 portion 132 of first section 130. In operation, while the first mating member 186 and its mating
13 clip 188 and 190 are inserted into internal chamber 146, simultaneously, second mating member
14 187 is inserted into lower internal chamber 147 and male mating clip 189 is inserted through
15 lower slot 149 and oppositely disposed male mating clip 191 is inserted into the corresponding
16 lower slot in second parallel sidewall 140.

17
18 Lower surface 166 of second housing portion 162 supports a multiplicity of straight
19 bristles 192.

20
21 This embodiment has been described with the receiving means 146, 148 and its parallel
22 open slot and 147, 149 and its parallel open slot in the first section and the mating members 186,
23 188, 190, 187, 189 and 191 in the second section. It will be appreciated that it is within the spirit
24 and scope of the present invention to have these joining means reversed so that the receiving
25 means are in the second section and the mating members are in the first section.

26
27 In operation, when first section 130 and second section 160 are mated together as
28 previously described and illustrated in Figure 3, the broom 110 operates like a conventional

1 broom when the bristles 150 and 192 are pushed or swept along the surface to be swept by
2 handle 156.

3
4 To convert the straight broom 110 into a whisk broom 194, the mating fasteners are
5 separated. In the embodiment disclosed, first upper mating clip 188 and second upper mating
6 clip 190 are squeezed inwardly and simultaneously, first lower mating clip 189 and second lower
7 mating clip 191 are squeezed inwardly, to cause them to be moved out of their respective slots in
8 housing 132 and the second section 160 is pulled away from the first section 130. Second
9 section 160 can then be held by itself by holding the second section by having the thumb pressed
10 into groove 168 and the forefinger pressed into the corresponding aligned mating groove in the
11 second parallel sidewall 180 and the handheld section 194 is used as a whisk broom to sweep
12 surfaces by hand.

13
14 To reassemble the broom and convert it back from a whisk broom to a full straight
15 broom, the mating members 186 and 187 are once again pushed into respective internal
16 chambers 146 and 147 until the mating clips 188, 190, 189 and 191 are once again retained in
17 their respective open slots in the sidewalls 138 and 140 of housing portion 132 of first section
18 130.

19
20 Defined in detail, the present invention is a convertible angle broom, comprising: (a) a
21 two piece housing having a first section and a second section; (b) the first section having a
22 housing portion comprising an upper surface, a horizontal lower surface, a first sidewall, a
23 second sidewall parallel to the first sidewall, a first outer closed end and a parallel interior open
24 second end, an internal chamber extending from the interior open second end into at least a
25 portion of the interior of the housing portion, a first open slot in the first sidewall and in
26 communication with the internal chamber and a second open slot in the parallel second sidewall
27 also in communication with the internal chamber, the first and second open slots being parallel
28 and aligned with each other; (c) a multiplicity of straight bristles retained by the horizontal lower

1 surface of the housing portion of the first section; (d) a handle base retained on the upper surface
2 of the housing portion of the first section, the handle base having receiving means to retain an
3 elongated handle of the angle broom and an elongated handle retained therein; (e) the second
4 section having a housing portion comprising an upper surface, a lower surface having a
5 multiplicity of stepped sections at various angles, the angles to the horizontal increase from the
6 step sections adjacent an interior end of the housing to the stepped section adjacent an outermost
7 end of the housing, the housing having a first sidewall and a parallel second sidewall; (f) the
8 housing portion of the second section further comprising an interior end positioned adjacent the
9 interior end of the housing of the first section, a mating member supported on the interior end of
10 the housing member of the second section, the mating member having a first clip and a second
11 clip; (g) the housing further comprising an outer end which retains an arcuate handle thereon
12 which handle extends over a portion of the upper surface of the housing portion of the second
13 section; and (h) a multiplicity of bristles retained on the lower stepped surface of the housing
14 portion of the second section, with the angle of the bristles to the horizontal increasing from the
15 interior end to the exterior outer end; (i) whereby, the mating member on the second section is
16 inserted into the chamber on the first section and the first and second clip members are
17 respectively retained in the open slots of the first section, the first and second sections are joined
18 to form an angle broom and when pressure is exerted on the clip members to push them into the
19 internal chamber, the second section is pulled away from the first section and the second section
20 is grasped by its handle to act as an angled whisk broom.

21
22 Defined broadly, the present invention is a convertible angle broom, comprising: (a) a two
23 piece housing having a first section and a second section; (b) the first section having a housing
24 portion comprising an upper surface, a lower surface, a first sidewall, a second sidewall parallel
25 to the first sidewall, a first outer closed end and a first interior end having first retaining means;
26 (c) a multiplicity of bristles retained by the horizontal lower surface of the housing portion of the
27 first section; (d) means to retain an elongated handle on the upper surface of the first section and
28 an elongated first handle retained therein; (e) the second section having a housing portion

1 comprising an upper surface, a lower surface with at least one stepped section at an angle to the
2 horizontal, the housing having a first sidewall and a second sidewall; (f) the housing portion of
3 the second section further comprising an interior end positioned adjacent the interior end of the
4 housing of the first section, a mating retaining member supported on the interior end of the
5 housing member of the second section, the mating member retaining member removably
6 attachable to the first retaining means in the first section; (g) a second handle retained on the
7 second section; and (h) a multiplicity of bristles retained on the lower stepped surface of the
8 second section, at least some of the bristles being oriented at an angel to the horizontal; (i)
9 whereby, when the first and second sections are joined together by the mating retaining member
10 and the first retaining means, the broom operates as a conventional push broom and when the
11 first and second sections are separated by disengaging the mating retaining member from the
12 first retaining means, the second section is operated as an angled whisk broom.

13
14 Defined more broadly, the present invention is a convertible angle broom, comprising:
15 (a) a two piece housing having a first section and a second section; (b) the first section having a
16 housing portion having means to retain an elongated handle, means to retain a multiplicity of
17 bristles, and a first joining means; (c) a multiplicity of bristles retained by the housing portion of
18 the first section and an elongated handle retained by the housing portion of the first section;
19 (d) the second section having a housing portion having means to retain a handle, means to retain
20 a multiplicity of bristles and a second joining means; and (e) the first and second sections
21 aligned so that first joining means is aligned with the second joining means to removably attach
22 the first section to the second section; (f) whereby, when the first and second joining means are
23 connected, the first and second sections are attached and the broom operates as a conventional
24 broom by being swept by the elongated handle, and when the first and second joining means are
25 separated, the second section operates as a whisk broom.

26
27 Defined even more broadly, the present invention is a convertible broom, comprising:
28 (a) a two piece housing having a first section and a second section; (b) the first section having a

1 housing portion comprising an upper surface, a horizontal lower surface, a first sidewall, a
2 second sidewall parallel to the first sidewall, a first outer closed end and a parallel interior open
3 second end, at least one internal chamber extending from the interior open second end into at
4 least a portion of the interior of the housing portion, a first open slot in the first sidewall and in
5 communication with the at least one internal chamber and a second open slot in the parallel
6 second sidewall also in communication with the at least one internal chamber, the first and
7 second open slots being parallel and aligned with each other; (c) a multiplicity of straight bristles
8 retained by the horizontal lower surface of the housing portion of the first section; (d) a handle
9 base retained on the upper surface of the housing portion of the first section, the handle base
10 having receiving means to retain an elongated handle of the broom and an elongated handle
11 retained therein; (e) the second section having a housing portion comprising an upper surface, a
12 horizontal lower surface, the housing having a first sidewall and a parallel second sidewall; (f)
13 the housing portion of the second section further comprising an interior end positioned adjacent
14 the interior end of the housing of the first section, a mating member supported on the interior end
15 of the housing member of the second section, the mating member having a first clip and a second
16 clip; (g) the housing further comprising grasping means incorporated into the first and second
17 sidewall of the housing portion of the second section; and (h) a multiplicity of bristles retained
18 on the lower surface of the housing portion of the second section; (i) whereby, the mating
19 member on the second section is inserted into the at least one chamber on the first section and
20 the first and second clip members are respectively retained in the open slots of the first section,
21 the first and second sections are joined to form a broom and when pressure is exerted on the clip
22 members to push them into the internal chamber, the second section is pulled away from the first
23 section and the second section is grasped by its grasping means to act as a whisk broom.

24
25 Defined even more broadly, the present invention is a convertible broom, comprising:
26 (a) a two piece housing having a first section and a second section; (b) the first section having a
27 housing portion comprising an upper surface, a lower surface, a first sidewall, a second sidewall,
28 a first outer closed end and a first interior end having at least one first retaining means; (c) a

1 multiplicity of bristles retained by the horizontal lower surface of the housing portion of the first
2 section; (d) means to retain an elongated handle on the upper surface of the first section and an
3 elongated handle retained therein; (e) a second section having a housing portion comprising an
4 upper surface, a lower surface, a first sidewall and a second sidewall; (f) the housing portion of
5 the second section further comprising an interior end positioned adjacent the interior end of the
6 housing of the first section and at least one mating retaining member supported on the interior
7 end of the housing member of the second section, the at least one mating retaining member
8 removably attachable to the first retaining means in the first section; (g) a grasping means
9 formed into the first and second sidewall of the second section; and (h) a multiplicity of bristles
10 retained on the lower surface of the second section; (i) whereby, when the first and second
11 sections are joined together by the at least one mating retaining member and the at least one first
12 retaining means, the broom operates as a conventional broom and when the first and second
13 sections are separated by disengaging the at least one mating retaining member from the at least
14 one retaining means, the second section is operated as a whisk broom.

15
16 Defined even more broadly, the present invention is a convertible broom, comprising:

17 (a) a two piece housing having a first section and a second section; (b) the first section having a
18 housing portion having means to retain an elongated handle, means to retain a multiplicity of
19 bristles, and at least one joining means; (c) a multiplicity of bristles retained by the housing
20 portion of the first section and an elongated handle retained by the housing portion of the first
21 section; (d) the second section having a housing portion having means to grasp the second
22 section, means to retain a multiplicity of bristles and at least one joining means; and
23 (e) the first and second sections aligned so that the joining means on the sections are aligned to
24 removably attach the first section to the second section; (f) whereby, when the joining means in
25 the first and second sections are connected, the first and second sections are attached and the
26 broom operates as a conventional broom by being swept by the elongated handle, and when the
27 joining means are separated, the second section operates as a whisk broom.

1 Of course the present invention is not intended to be restricted to any particular form or
2 arrangement, or any specific embodiment, or any specific use, disclosed herein, since the same
3 may be modified in various particulars or relations without departing from the spirit or scope of
4 the claimed invention hereinabove shown and described of which the apparatus or method
5 shown is intended only for illustration and disclosure of an operative embodiment and not to
6 show all of the various forms or modifications in which this invention might be embodied or
7 operated.

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10 **WHAT IS CLAIMED IS:**
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